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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/961,391	09/25/2001	Kenneth J. Carstensen		5498

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Arlington, VA 22202

EXAMINER

MACARTHUR, VICTOR L

ART UNIT	PAPER NUMBER
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3679

DATE MAILED: 09/26/2002

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

09/961,391

Applicant(s)

CARSTENSEN, KENNETH J.

Examiner

Victor MacArthur

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 3,4,6-14,16,17 and 19-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,15,18 and 28-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION***Response to Election***

Applicant's election with traverse of group I and species I, drawn to figs. 1, 3 and 4 and claims 1, 2, 4-8, 15-19 and 28-30 in Paper No. 6 is acknowledged. The traversal given in regard to the species restriction is on the ground(s) that "the themes and expressions of the claims all define entities which are so united and related that they should clearly be covered by one search and encompassed within the same logical analysis", "the scope of any search that encompasses Figs. 1, 2 and 4 will inherently cover Fig.6" and "inclusion of the pre-stress concepts in claims 11-14 to 25-27 relating to the double threshold section versions of Figs. 7-11 means that any examination of the provisionally elected form of species 1 will inherently include this modification as well. This is not found persuasive since the fact that multiple species have one or more limitations (i.e. pre-stress concepts) in common is not, in and of itself, sufficient evidence that the species are obvious variants of each other. Species are necessarily closely related, however this fact is irrelevant to the question of whether or not restriction is proper. What is relevant is whether or not the species are patentably distinct. See MPEP § 808.016. There exist limitations not common among species. For instance, the end face (36) of figure 3 is not present in figure 7 and the intervening undercut (52) of figure 7 is not present in figure 3. The applicant has failed to provide evidence that the species are obvious variants or to admit on the record that this is the case. Accordingly, the requirement is still deemed proper and is therefore made FINAL.

Claims 3, 4, 6-14, 16, 17 and 19-27 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected group and species, there being no allowable

generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 6.

Claim Objections

Claims 15, 18 and 28 are objected to because of the following informalities:

The phrase “for interconnection sucker rods” in line 1 of claim 15 appears to be a typographical error. The examiner suggests replacing the above-mentioned phrase with “for interconnecting sucker rods” in order to overcome this objection.

The phrase “faces area selected” in line 15 of claim 18 appears to be a typographical error. The examiner suggests replacing the above-mentioned phrase with “faces are selected” in order to overcome this objection.

The phrase “axial distance between torque disk faces selected such that the thread makeup to an operative penetration to end regions and the” in line 14 of claim 28 appears to be a typographical error. The examiner suggests replacing above-mentioned phrase with “axial distance such that the threads mate up and the end regions of the” in order to overcome this objection.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 15, 18, and 28-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 2 and 15, it is unclear what element the phraseology “the hand tight plane” refers to. Thus the claim is rendered indefinite.

Regarding claims 18 and 28, reference to “API standards” and “manufacturer’s specifications” renders the claims indefinite since “API standards” and “manufacturer’s specifications” continually change over time. Claim 17 depends from rejected claim 16 thereby rendering this dependent claim indefinite.

As to claim 28, in lines 14-15 of the claim, it is unclear what the phraseology “the thread makeup” and “an operative penetration” refer to. Thus the claim is rendered indefinite.

As to claims 29 and 30, it is unclear what the phraseology “torque or circumferential displacement method” refers to. Thus the claim is rendered indefinite. Furthermore, as to claim 29, the limitation “the pin end shoulders” is recited in line 4 of the claim. There is insufficient antecedent basis for this limitation in the claim, as the elements were not previously recited in the claim. The examiner suggests the use of the article “a” rather than “the” to overcome this rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 5, 15 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 3859503 to Palone (see marked-up copy).

Regarding claim 1, Palone discloses (figs.2, 4) a connection for sucker rods used in strings in petroleum wells comprising: a pair of sucker rods (36), each having a pin end (44) with an end face (100) and at least an adjacent male threaded section (200); a coupler (40) having at least two interior female threaded sections (40A, 40B) receiving the male threaded sections of the pin ends, wherein the pin ends of the sucker rod includes coupler engagement members (42) spaced apart from the end faces; and the pin ends are dimensioned in length relative to the coupler to provide compressional engagement between opposing pin ends (via 58) when the male and female threaded sections are matingly inserted to a preselected penetration in the coupler.

As to claim 2, Palone discloses a connection as set forth in claim 1 above, wherein an insertion for each pin end is to a displacement beyond insertion to a hand tight plane, whereby pin end sections are in compression and associated coupler sections are in tension and the mating threads lock under stress to inhibit relative movement.

As to claim 5, Palone discloses a connection for sucker rods as set forth in claim 1 above, further including a torque washer (58) of an axial dimension and disposed centrally in the coupler between the pin end faces and engaged (via 58A, 58B) on each side by the flat end faces of the pin ends.

As to claim 15, Palone discloses a fatigue-resistant combination for interconnecting sucker rods into a sucker rod string by joining opposing pin ends with a coupler, comprising: a

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cylindrical coupler (40) having an interior axial bore and a central region with female threaded sections (40A, 40B) at least on each axial side of the central region; a torque element (58) of a selected axial length disposed in the central region of the coupler and having transverse end faces (300); a pair of pin ends (100) of sucker rods engaged in the axial bore of the coupler from opposite ends thereof; the pin ends having flat end faces and adjacent male thread sections (200) that are each matingly engaged into a female threaded section of the coupler, the end faces of the pin ends engaging (via 58A, 58B) the opposite end faces of the torque element to stress at least portions of the male thread sections of the pin ends in compression and associated portions of the coupler in tension when the pin ends are engaged in the coupler to a displacement past a hand tight plane.

As to claim 29, Palone discloses a sucker rod coupling unit comprising: a sleeve coupling (40) and two sucker rod pin ends (44) with predetermined dimensional criteria and made up to establish compressive contact forces. Palone does not specify how the sucker rod coupling will function under certain induced forces. However, it is well established that a recitation with respect to the manner in which an apparatus is intended to be employed, *i.e.*, a functional limitation, does not impose any structural limitation upon the claimed apparatus which differentiates it from a prior art reference disclosing the structural limitations of the claim. In re Pearson, 494 F.2d 1399, 181 USPQ 641 (CCPA 1974); In re Casey, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); In re Otto, 312 F.2d 937, 136 USPQ 458 (CCPA 1963). Furthermore, under the principles of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the function claimed, then the function claimed will be considered to be anticipated by the prior art device. Since the prior art device comprises all of the applicants

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claimed structural limitations, it can be assumed the device will inherently function in a like manner regardless of whether the prior art reference explicitly discusses such capacity for performing the recited function. *In re King*, 802 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986). In re Ludtke, 441 F.2d 660, 169 USPQ 563 (CCPA 1971).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 3859503 to Palone (see marked-up copy).

As to claim 18, Palone discloses a connection for sucker rods used in pumping in oil well installations, comprising: a sleeve coupling (40) with an interior female threaded surface (40A, 40B) and having end walls of given radial dimension; a pair of sucker rod pin ends (44), each threaded into the coupling from a different end, each of the pin ends having a male threaded end portion (200) with an end face (100) transverse to the longitudinal axis of the rod, a transverse shoulder (42) spaced from the end plane by a pre-stress dimension, and an undercut pin neck (400) between the root thread of the male thread and the transverse shoulder, and a torque disk (58) having parallel planar faces (300) spaced apart by an axial distance and the torque disk

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being of different material than the pin ends (col.4, ll.49-52), where the spacing between the pin ends and the shoulders, and the axial distance between torque disk faces are selected such that, with thread makeup to a tightness, the end regions of the coupling are in compression coextensive with the pin neck regions and in tension coextensive with the torque disk, and pressure and frictional contact are maintained between the pin ends and torque disk and the end walls of the coupling and the pin shoulders. Palone does not explicitly disclose the proportions of the sucker rod connection; however, an end face that deviates less than about 0.0005 inches from an end face plane, and faces deviating from a plane by less than about 0.0005 inches are within the scope of Palone's disclosure. Further, applicant is reminded that it has generally been recognized that the optimization of proportions in a prior art device is a design consideration within the skill of the art. In re Reese, 290 F.2d 839, 129 USPQ 402 (CCPA 1961). Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to optimize the proportion of the sucker rod connection of Palone for deviations less than about 0.0005 inches as such practice is a design consideration within the skill of the art.

As to claim 28, Palone discloses a connection for sucker rods used in pumping installations in oil wells, comprising: a sleeve coupling (40) with interior counter bores (500) at each end region and with an interior female threaded surface (40A, 40B) between the counter bores and having end walls of given radial dimension and axial dimension; a pair of sucker rod pin ends (44), each threaded into the coupling from a different end, each of the pin ends having a male threaded end portion (200) with an end face transverse to the longitudinal axis of the rod, a transverse shoulder (42) spaced from the end face plane by a pre-stress dimension, and an undercut pin neck (400) between the root of the male thread and the transverse shoulder, and a

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torque disk (58) having parallel planar faces (300) spaced apart by a predetermined axial distance selected such that the end regions of the coupling are in compression coextensive with the pin neck regions and the center region of the coupling is in tension coextensive with the torque disk, and a compressive force and frictional contact are maintained between the pin ends and the end walls of the coupling and the shoulders. Palone does not explicitly disclose the proportions of the sucker rod connection; however, an end face that deviates less than about 0.0005 inches from a nominal end face plane is within the scope of Palone's disclosure. Further, applicant is reminded that it has generally been recognized that the optimization of proportions in a prior art device is a design consideration within the skill of the art. In re Reese, 290 F.2d 839, 129 USPQ 402 (CCPA 1961). Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to optimize the proportion of the sucker rod connection of Palone for deviations less than about 0.0005 inches as such practice is a design consideration within the skill of the art.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Referring to sucker rod connections:

USPN 6212763 to Newman;

USPN 4875710 to Mercado;

USPN 5794985 to Mallis;

USPN 3476409 Benteler et al.; and

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USPN 4568113 Axford et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor MacArthur whose telephone number is (703) 305-5701. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne can be reached on (703) 308-1159. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9326 for regular communications and (703) 872-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.



VLM

September 23, 2002



Lynne H. Browne
Supervisory Patent Examiner
Technology Center 3600

Attachment: 1 marked-up copy of USPN 3859503 to Palone

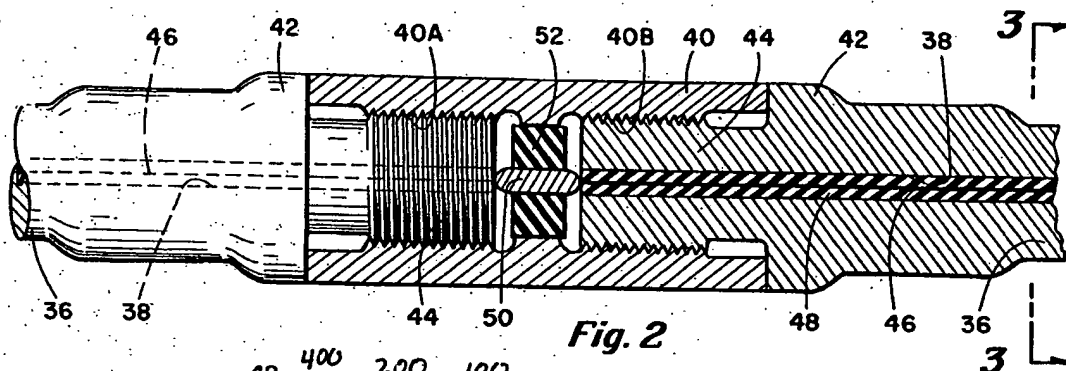


Fig. 2

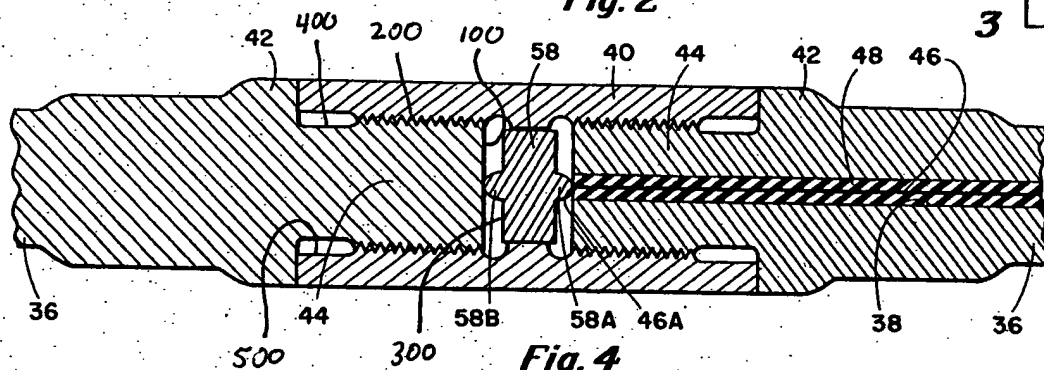


Fig. 4

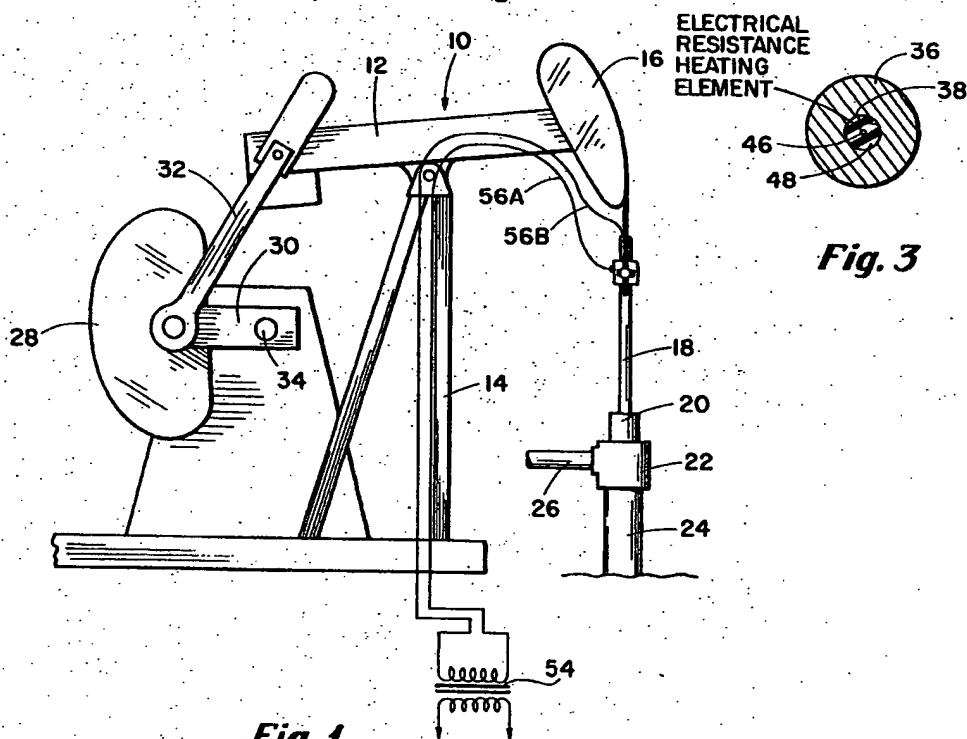


Fig. 1

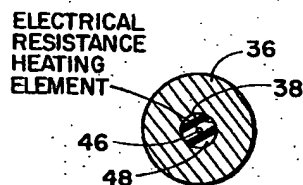


Fig. 3